

416 FLIGHT TEST SQUADRON



MISSION

LINEAGE

26 Reconnaissance Squadron (Heavy) constituted, 28 Jan 1942
Redesignated 416 Bombardment Squadron (Heavy), 22 Apr 1942
Activated, 1 Jun 1942
Redesignated 416 Bombardment Squadron, Heavy, 20 Aug 1943
Inactivated, 8 Nov 1945
Redesignated 416 Bombardment Squadron, Very Heavy, 3 Jul 1947
Activated in the Reserve, 17 Jul 1947
Inactivated, 27 Jun 1949

6516 Test Squadron designated and activated, 10 Mar 1989

416 Bombardment Squadron, Very Heavy and 6516 Test Squadron consolidated, 1 Oct 1992

Redesignated 416 Test Squadron, 2 Oct 1992

Redesignated 416 Flight Test Squadron, 1 Mar 1994

STATIONS

MacDill Field, FL, 1 Jun 1942
Pendleton Field, OR, 29 Jun 1942
Gowen Field, ID, 28 Aug 1942
Walla Walla, WA, 30 Sep 1942
Sioux City AAB, IA, 17 Nov 1942–3 Jan 1943
Navarin, Algeria, 25 Mar 1943

Oudna, Tunisia, 5 Aug 1943
Tortorella Afd, Italy, 14 Dec 1943
Marcianise, Italy, c. 27 Oct–8 Nov 1945
Robins AAFld (later, AFB), GA, 17 Jul 1947–27 Jun 1949
Edwards AFB, CA, 10 Mar 1989

ASSIGNMENTS

99 Bombardment Group, 1 Jun 1942–8 Nov 1945
99 Bombardment Group, 17 Jul 1947–27 Jun 1949
6510 (later, 412) Test Wing, 10 Mar 1989
412 Operations Group, 1 Oct 1993

WEAPON SYSTEMS

B–17, 1942–1945
Unkn, 1947–1949
F–16, 1989

COMMANDERS

Lt Col Robert Arbach, 2001

HONORS

Service Streamers

None

Campaign Streamers

Air Offensive, Europe
Tunisia
Sicily
Naples-Foggia
Anzio
Rome-Arno
Normandy
Northern France
Southern France
North Apennines
Rhineland
Central Europe
Po Valley
Air Combat, EAME Theater

Armed Forces Expeditionary Streamers

Decorations

Distinguished Unit Citations
Sicily, 5 Jul 1943
Austria, 23 Apr 1944

Air Force Outstanding Unit Award
1 Jan 2013-31 Dec 2013

EMBLEM



416 Bombardment Squadron emblem (approved 11 January 1943)



6516 Test Squadron emblem (approved 24 May 1990)



416 Flight Test Squadron emblem (Approved, 10 Oct 1995)

Celeste, on a pile bendwise sinister Azure two mullets of four in pale Argent, issuant from base a mound and issuant from dexter chief a contrail arcing to base in perspective and an additional arc in dexter base Or, overall an eagle stooping in silhouette Sable all within a diminished bordure of the last. (Approved, 10 Oct 1995; replaced emblems approved, 24 May 1990 and 11 Jan 1943)

MOTTO

THE BEST TEST IN THE WEST

Vipers

OPERATIONS

Combat in MTO and ETO 31 Mar 1943–26 Apr 1945. Flight testing of the F-16, 1989.

With lineage that dates back to the 416 Bomber Squadron of the 1940s, the 416 Flight Test Squadron was activated at Edwards on 2 October 1992. Although the squadron was activated in the early 90's, the AFFTC has been testing the F-16 Fighting Falcon (more commonly known as the Viper) for nearly three decades. First flown at Edwards on 20 January 1974 when the YF-16 inadvertently lifted off during a high-speed taxi test, the F-16 went on to be selected as the USAF's newest light-weight fighter. Since its relatively small beginning with an initial USAF plan of 650 aircraft, the F-16 has become one of the most successful military production programs in history. The AFFTC and the 416 FLTS has tested a myriad of upgrades over the years to support the 4,000 plus F-16s now flown by more than 20 countries.

In the early 80s, the F-16 LANTIRN (Low Altitude Navigation and Targeting Infrared for Night) system underwent extensive flight testing - a radical new technology that denied any adversary the once comforting sanctuary of darkness. In the late 80s, the F-16 was added to the USAF Test Pilot School curriculum. During the 90s, the Global Positioning System was tested on Block 40 F-16s and flight testing began on the Mid-Life Update program to support F-16s flown by the European Participating Air Forces - Belgium, The Netherlands, Norway and Denmark. The 416 FLTS currently performs sustainment testing - an activity that embraces ground and flight tests of

airframe, engine, avionics and weapons upgrades to USAF and multinational versions of the F-16 A/B/ C/D; supports the activities of other AFFTC flying units by flying safety chase, photo chase, airborne target support and pacer support; and provides high angle of attack/departure awareness training to units of Air Combat Command, Air Education and Training Command, Air National Guard and Air Force Reserves.

The F-16 remains state-of-the-art through continual upgrades to its computerized "Central nervous system." Current and future programs include integration of Link 16 and Joint Helmet Mounted Cueing System on the Block 50, Pratt & Whitney 229 integration on the Block 42 and smart weapons integration for the Block 30.

The 416 FLTS also provides flight testing for an impressive array of friendly foreign air forces who operate the F-16 - Taiwan, Greece, Israel, Egypt and Bahrain, among others. Furthermore, the European Participating Air Forces continue to test various upgrades and on the books for the future is testing of the F-16 Block 60 for the United Arab Emirates. The 416 is proud of its accomplishments with the F-16.

2001

17 July – At 0700 hrs., pilot Maj. Aaron George of the 416 Flight Test Squadron at Edwards Air Force Base, California, and Judson Brohmer of Tehachapi, California, an aerial photographer under contract to the Air Force Flight Test Center, are killed in the crash of an Edwards based Lockheed Martin F-16B Block 5 Fighting Falcon, 78-0100, while on a test sortie to chase and film the launch of the Miniature Air-Launch Decoy (MALD) from a second F-16, also from the 416 Flight Test Squadron.

From Norway to Australia, members from a number of allied and partner nations have come to Edwards Air Force Base to team with base units to test systems, enhance international cooperation and advance their own air force's capabilities. At the 416 Flight Test Squadron, a team of U.S. Air Force engineers and pilots are working with Norwegian government and industry personnel in testing the Joint Strike Missile. The JSM is designed to be carried in the F-35A's internal weapons bay and is the only powered, anti-surface warfare missile to do so according to Norwegian officials, said James Cook, the 416 FLTS JSM program manager. The JSM is an advanced missile made of composite materials and uses stealth technology. It has air intakes, fold-out wings and tail fins. The navigation system supports terrain-following flight and can be used against sea- and land-based targets. Before it can be integrated with the F-35A, it is being tested on F-16 Fighting Falcons from the 416 FLTS. The F-16 provides an excellent platform to initially test the missile before it's transferred to the fifth-generation fighter, test managers said. "What we're doing is conducting risk-mitigation testing with the F-16 before the JSM is integrated on the F-35," Cook said. All tests are conducted over the Utah Test and Training Range. "I think it's awesome to be a part of the next generational fighter while being in a legacy fighter combined test force. I'm excited to see the final outcome, which will be the culmination of all we've done here. To see it hit the target and explode the way it was planned to do," Cook said. Along with Cook, the JSM team consists of test pilots Maj. John Trombetta and Maj. Jameel Janjua (Royal Canadian Air Force), flight test engineers Eric Biesen and Tom Smeeks and Collin Drake, project engineer. The JSM

program at the 416 is one project that falls under the squadron's European Participating Air Force Program, which Cook manages. The squadron conducts tests for European customers when requested. 2016

EDWARDS AIR FORCE BASE, Calif. The 416 Flight Test Squadron continually conducts developmental testing to enhance the warfighting capabilities of the F-16 Fighting Falcon. One focus of the F-16 testers here is the integration and testing of a new radar as part of the F-16 Radar Modernization Program.

According to its manufacturer, Northrop Grumman, the APG-83 Scalable Agile Beam Radar is a fifth-generation radar that is an active electronically scanned array fire control radar. It is intended to replace currently used APG-66 and APG-68 radars and provide the F-16 with advanced capabilities similar to fifth-generation fighters like the F-22 Raptor and F-35 Lightning II. It also has the ability to operate in dense electronic environments, simultaneous multi-mode operations and enhanced system availability through increased reliability, maintainability and supportability.

The APG-83 is designed to be installed without making any major modifications to the jet. "The APG-83 will be a form, fit and function modification that will operate within existing space, power and cooling capabilities of the platform," said Lt. Col. Chris Keithley, the 416 FLTS commander. The APG-83 could satisfy a need for F-16 users to counter increasingly sophisticated and technological threats with increased bandwidth that would allow the F-16 to detect, track and identify greater numbers of targets faster, and at greater distances. "With the modernization comes increased capabilities," said Michael Powell, the 416 FLTS project lead. "It is a more modern and stable radar."

Powell added the F-16 RMP at the 416 FLTS is ongoing with several ground and flight tests performed with the APG-83 in the past two years. Data collected will be used by the Air Force to determine if the radar can be implemented operationally in the future. The F-16A first flew in December 1976 with the first operational F-16A delivered to the Air Force in January 1979. Since then, improvements have led to the F-16C and F-16D, which are the current single- and two-seat versions. All active Air Force, Air National Guard and Air Force Reserve units have converted to the F-16C/D, according to the Air Force. Since 9/11, the F-16 has been a major component of the combat forces committed to the war on terrorism, flying thousands of sorties. The F-16 is also flown by several partner nations around the world.

DEPARTMENT OF THE AIR FORCE ORGANIZATIONAL HISTORIES

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Sources

Air Force Historical Research Agency, U.S. Air Force, Maxwell AFB, Alabama.

The Institute of Heraldry, U.S. Army, Fort Belvoir, Virginia.

Air Force News, Air Force Public Affairs Agency.

Unit History. *Air Force Flight Test Center, Edwards Air Force Base, CA, 50th Anniversary. 1951-2001.*